



2014 MINI MEL'S - SAVI MELODY & SOL (COLOR)-"P" SERIES

## INSTALLATION AND USERS GUIDE

FOR INDEPENDENT USE OR

WITH PENTAIR CONTROLS or ZODIAC 1 Touch Rev R CONTROLS

WARNING: DO NOT USE IN JUNCTION WITH ANY PENTAIR LIGHT - THEY WILL NOT HOLD SYNCH ON COLOR SHOWS PAST A FEW HOURS

### IMPORTANT WARNING & SAFETY INSTRUCTIONS

**DANGER** - SERIOUS BODILY INJURY OR DEATH CAN RESULT IF THESE LIGHTS ARE NOT INSTALLED AND USED CORRECTLY

**DANGER** - INSTALLERS, POOL OPERATORS AND POOL OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS BEFORE USING THESE LIGHTS

**WARNING** - Before installing this product, read and follow all warning notices and instructions in this Guide. Failure to follow warnings and instructions can result in severe injury, death or property damage. For more information contact company at numbers contained within Guide.

**WARNING** - These underwater swimming pool lights MUST BE installed by a licensed or certified electrician or a qualified pool professional in accordance with the National Electric Code (NEC) or the Canadian Electric Code (CEC), CSA C22.1. All applicable local installation codes and ordinances must also be adhered to. Improper installation will create an electrical hazard which could result in death or serious injury to pool users, installers or others due to electrical shock.

**ALWAYS DISCONNECT THE POWER TO THE POOL LIGHT(S) BEFORE SERVICING.**

**IMPORTANT NOTICE - ATTENTION INSTALLER:** This Installation and Users Guide contains important information about the installation, operation and safe use of this swimming pool/spa light. This Guide should be given to the owner and/or operator of this equipment.

**READ AND FOLLOW ALL INSTRUCTIONS**  
**SAVE THESE INSTRUCTIONS**

Products in this Guide are covered under one or more of the following patents: 6,827,464 7,244,037 6,971,760 5,617,496 5,617,497 5,789,471 5,528,714 5,33,228 6,200,012 6,48,952 6,422,730 6,367,100 6,398,397 6,393,192 6,375,342 7,204,602 7,229,027

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### Underwater LED Lights

READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY

### ⚠ CAUTION! SAFETY PRECAUTIONS

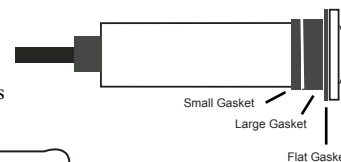
⚠ SAVI Lights are a low voltage light and should NEVER be electrically connected to a power source other than an approved pool "Safety Rated" UL Listed outdoor rated Class 3, 12VAC Transformer. Failure to comply will either damage or destroy SAVI Lights and VOID the Warranty.

### ⚠ TURN OFF MAIN POWER TO LIGHT BEFORE INSTALLATION /SERVICE

**NOTE:** No separate ground or bonding wire is required for the Melody, SOL low voltage lights which have no exposed metal. They do not require a niche.

**NOTE:** For Vinyl wall Fittings use both rubber gaskets. For Gunite and Fiberglass remove the Small gasket and use the Large one only.

For Replacement LED Light Cartridges see Light Cartridge Replacement Page



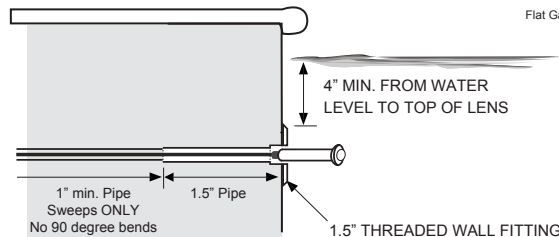
### STEP 1

The light fixture must be installed in or on a wall of the pool (or water feature) with the top of the lens opening not less than 4 inches (10.16cm) below the normal water level of the pool.

NOTE: Requires the use of a 1-1/2" threaded wall fitting.

1.5" Pipe through bond beam for a minimum of 14" then 1" conduit min. with sweeps / no 90 degree bends. We highly recommend the use of 1.5" pipe throughout the entire width of the bond beam.

**NOTE:** Use of 1.5" pipe with 14" min. length will accommodate all SAVI Lighting nicheless products. **See Minimum Conduit Lengths listed above.**

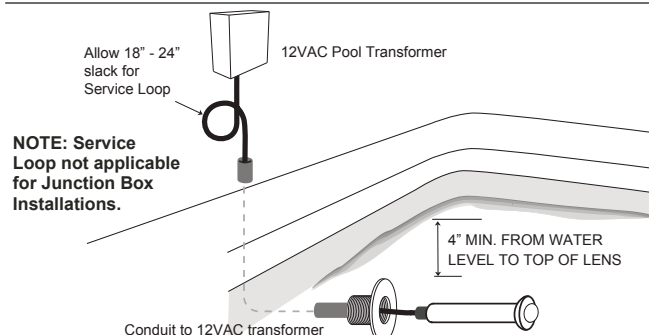


**NOTE:** Check with Local Building officials as to what conduit/pipe is acceptable

### STEP 2

Snake the 2-conductor electric cord through the conduit outlet of the wall fitting, into the conduit and up to the location of the 12VAC pool transformer. Cut off excess cord after allowing for service and length of run to the transformer. Pull the fixture snug to the wall fitting. 18"-24" of excess cord recommended as service loop.

**NOTE:** Make sure all protective coverings have been removed.

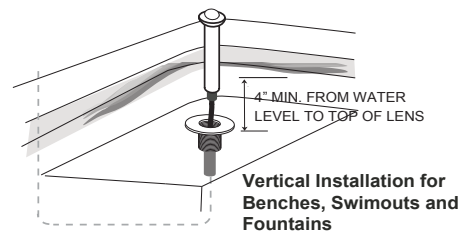


### Winterization Clause

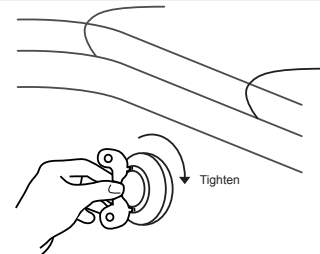
Pool Water Level must be drained down 12" below light(s) position in pool wall. We recommend that the lights be loosened from their wall fitting to allow drainage of water that might have accumulated within conduit. Consult your local Swimming Pool Professional for proper local area winterization processes. At NO TIME should water be removed from the pool without checking ground water tables.

### STEP 3

Using enclosed Lens Key, thread the light into the wall fitting until it is snug. Please provide Pool Owner with minimum of 1 key upon job completion (see winterization clause above)



An example of an approved pool transformer is the Intermatic model PX-100 or PX-300. Refer to WIRE GAUGE AND WIRE LENGTH guide for proper wire gauge size in reference to the use of Junction Boxes installations. NOTE: SAVI Lights can be used with any UL Listed outdoor rated Class 3, 12VAC transformer provided the wattage and amperage is not exceeded by the total wattage and amperage in use.



# OPERATION INSTRUCTIONS -INDEPENDENT USAGE

## Operational Process for P SERIES LED Color Pool and Spa Lights

**Important Note: All fixtures must be tied into the same transformer, circuit or switch for synchronization**

### POWERING ON THE P SERIES LED LIGHTS

1. Turn the lights on and wait for 20 seconds. The lights will first come on white for a few seconds and then return to the color mode it was on prior to being turned off. (If this is the initial installation, the lights will return to whatever mode they were in when last receiving power).

### WHEN OPERATED FROM WALL SWITCH OR OTHER MANUAL ON/OFF METHOD

2. To move to another color mode, Cycle the lights OFF/ON the selected number of times listed below.

Example: If you are now on BLUE (8) and want the lights to be Magenta (12), then the lights must be turned off and on (12) twelve times to bring you to Magenta. To move to Old School - turn OFF/ON 1 Time.

1. Old School - cycles through white,magenta,blue & green colors
2. Dance Mode: Rapid color changes
3. Smooth Mode: slow color transitions
4. Island Mode: Transitions beteen variety of blue and greens
5. USA Mode: Red,white and blue
6. Desert Mode:oranges, reds and magenta
7. Rich Mode: darker color shades
8. Blue
9. Green
10. Red
11. White
12. Magenta

13. Save: Saves the current color choice during a color show - see special section on SAVE usage

14. Bring Back: Turns on last saved color selection selected in Postion #13

These 2 Modes are specifically used with advanced control systems and not Manual Operations

**WARNING!!** During the ON/OFF cycle, before the selected mode is displayed, no illumination will occur. During this period of time the pool/spa will be dark and precautions should be taken to avoid unforeseen accidents. Failure to observe this warning may result in serious injury for death to pool/spa users.

3. The lights have memory. If the lights are off for 5-10 seconds, the next time the lights are turned on, they will go to white for approximately a few seconds and then return to the last color mode they were on prior to being turned off (Step 1 listed above). This function allows you to keep your lights returning to your favorite color mode every time the lights are turned back on.

**P Series LED Colored Nicheless Lights are specifically designed to be operated by selected Pentair Controls and Zodiac R Series Controls for direct switching/access to colors and programs WITHOUT having to toggle sequences of ON/OFF. Please refer to Pentair and Zodiac R Series controls for Installation and Operational directions.**

**Note: When using the above mentioned controls - when programming the Light Function - the general selection choice offered that should be selected is - INTELLIBRITE. The color and show names will be slightly different but all operations will be correct.**

**NOTE: At NO TIME shall the P Series lights be used in conjunction with any other lights - including Savi standard LED nicheless lights. The color choices, shows and operations are entirely different**

# IMPORTANT: READ FIRST

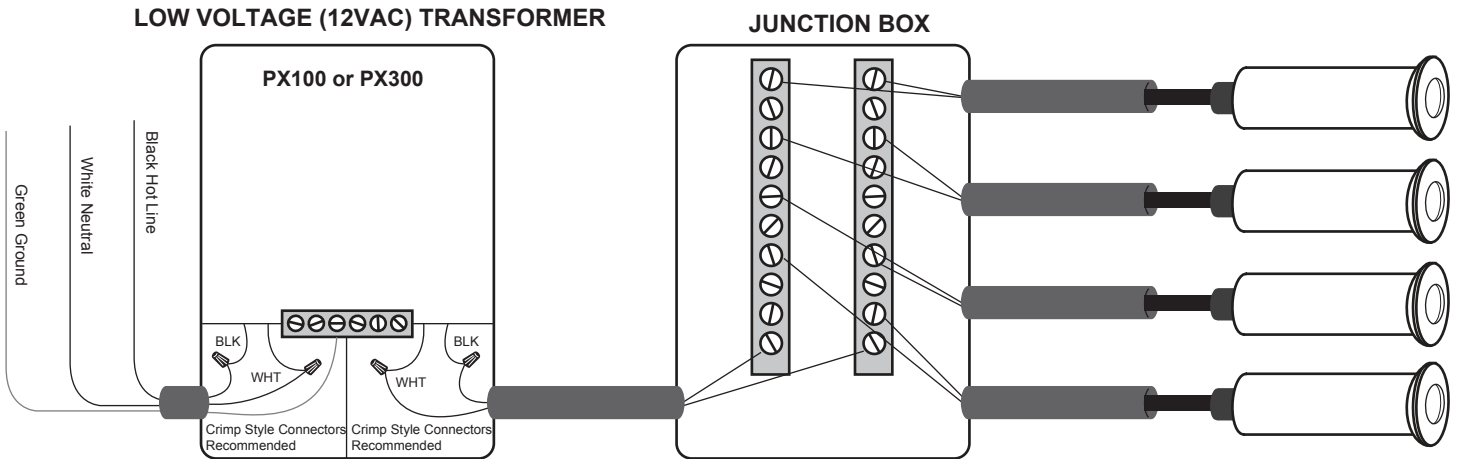


**SAVI LED UNDERWATER LIGHTS ARE LOW VOLTAGE FIXTURES. IMPROPER WIRE GAUGE AND WIRE LENGTH CAN AFFECT THE PERFORMANCE OF THESE PRODUCTS. FOLLOW THE GUIDES BELOW TO DETERMINE THE PROPER OPERATION AND OPTIMUM PERFORMANCE OF SAVI LIGHTS.**

## WIRE GAUGE & WIRE LENGTH GUIDE

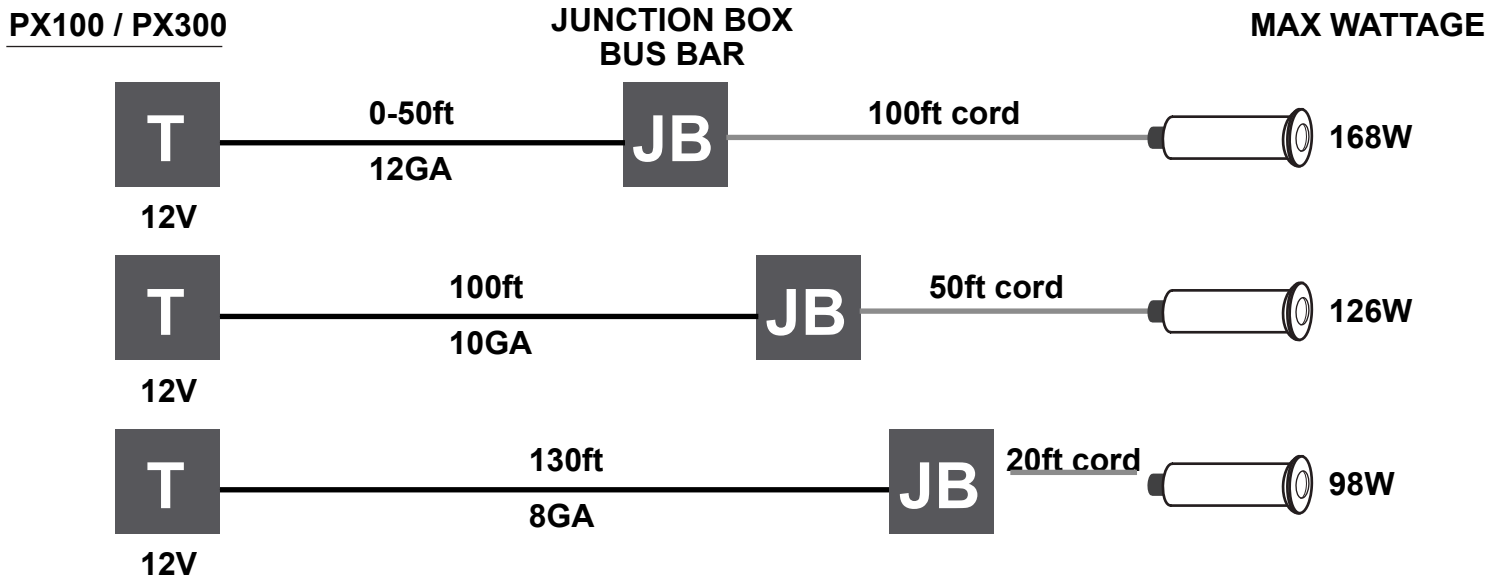
**NOTE:** Min. 12VAC: / Max 13VAC. The maximum run of service between transformer and lights should not exceed 150ft in total length, inclusive of the use of J Box or not.

**When J-Box used all voltage readings are to be taken at J-Box when all Lights are set on WHITE. When Lights are connected directly to transformer, voltage readings are taken at transformer with Lights on WHITE.**



**NOTE:** This Diagram is to be used as a guide line only for a typical System Installation and should only be used as such. It is the Installers sole responsibility to verify and assure that proper gauging of secondary wiring from the Transformer to the J-Box are in compliance with your local, State and National Electrical Codes.

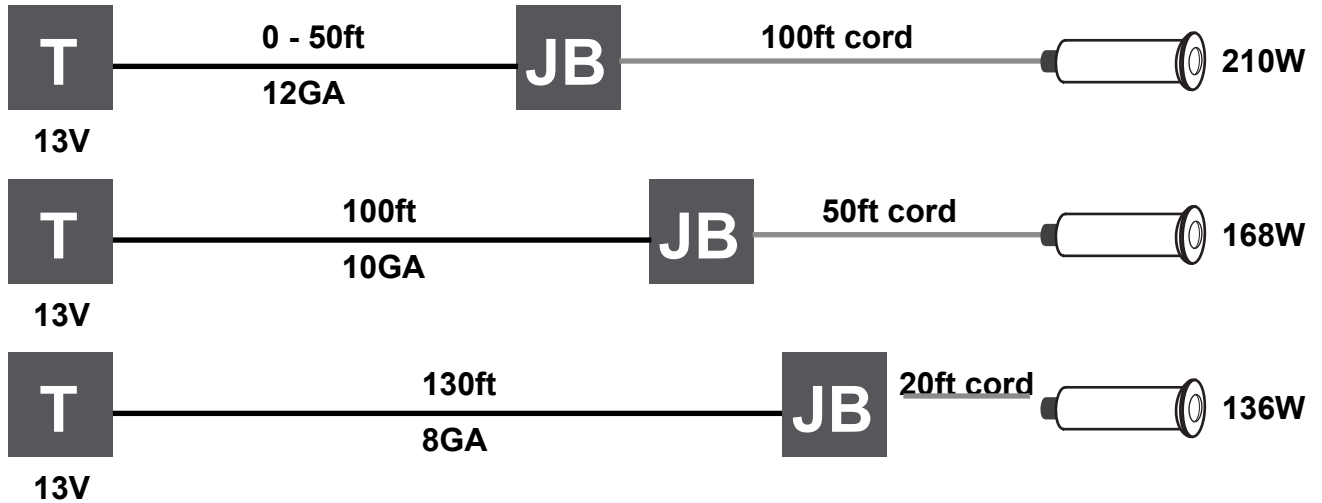
**NOTE:** The use of Solid Core over Stranded wire and terminating at Bus Bars is strongly recommended.



**PX100 / PX300**

**JUNCTION BOX  
BUS BAR**

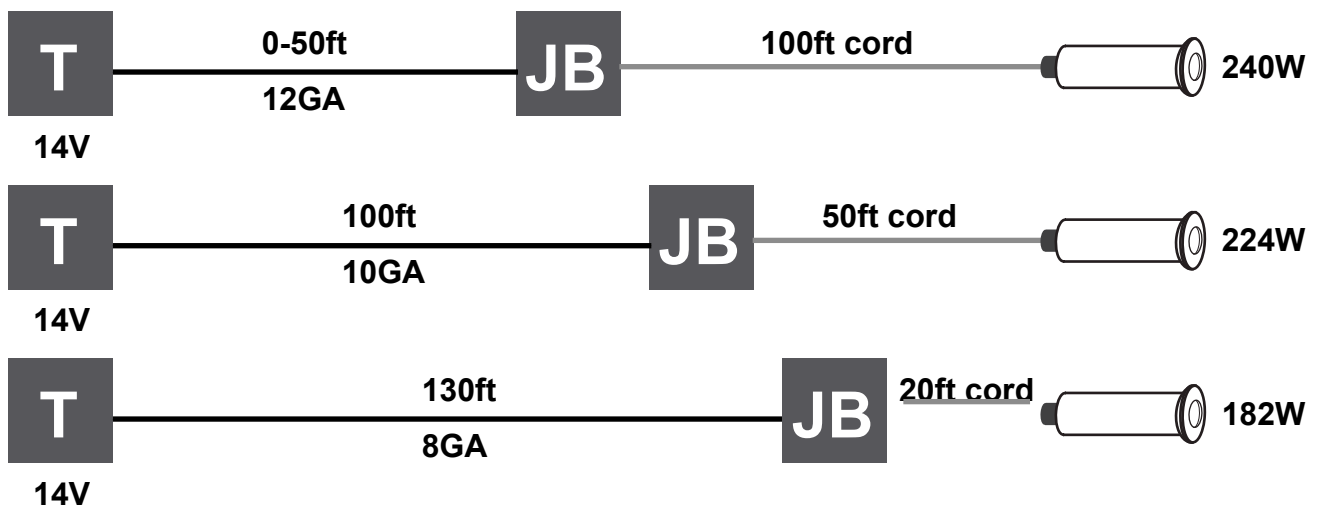
**MAX WATTAGE**



**PX300 ONLY**

**JUNCTION BOX  
BUS BAR**

**MAX WATTAGE**



**NOTE:** Please use appropriate low voltage supply to pool lights, ie. if 12V is appropriate voltage DO NOT use 13V or 14V tap on transformer output (if so equipped),

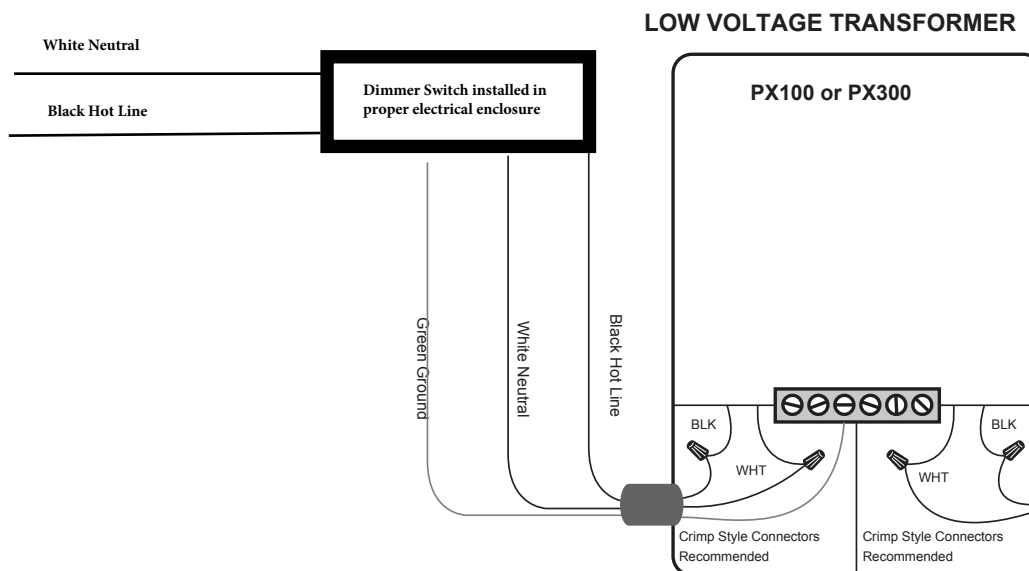
**WARNING** - DO NOT run 120V and Low Voltage wires in the same conduit or enclosures.

ALL Savi LED Colored Lights including Savi Color LED Light Drivers are designed to work or synchronize with each other. Please follow all installations for proper installation and follow Synchronization Instructions for proper operation. ***P Series will only work with other P Series Lights***

All Savi White LED Lights and White LED Drivers are designed to allow for the option of dimming or light output reduction. See enclosed information regarding general guidelines for dimming of our Savi LED White Lights.

**THE FOLLOWING INFORMATION IS FOR GENERAL INSTALLATION OF DIMMING SWITCHES OR CONTROLS FOR USE WITH SAVI BLANCO, BLANCO PRO WHITE LED LIGHTS. THIS INCLUDES BLANCO PRO WHITE LED LIGHT DRIVERS.**

All WHITE LED Savi Lights can be dimmed by the use of simplistic dimming switches. These directions specify those switches that are for independent or stand a lone use. For achieving dimming by the use of automatic or home based energy control systems please consult those controls systems instructions. AT NO TIME SHALL ANY SWITCH OR CONTROL BE INSTALLED ON THE 12V SIDE OF THE TRANSFORMER IN AN ATTEMPT TO DIM LIGHTS. DOING SO MAY DAMAGE THE LED LIGHT CARTRIDGE AND VOID WARRANTY.



**DESIGNER LENS SERIES OPTION:**

Savi Pool & Spa has created a unique set of options for our LED Series of lights - designer lens. Each one has the ability to create fantastic lighting effects within the pools interior. No other company can offer these lighting effects. These are so unique that we have a Patent Pending on this series. Look below and see if any one fits into your pool environment. Keep in mind that these lenses can be added on to any of our 2013 LED Lights - even if they have already been installed.

**HALF DOME** - This escutcheon adds over the existing lens to allow you to direct 1/2 the light in a direction you want. Downwards-to light a pools interior without light shining upwards. Upwards to light a waterfeature or sideways to put light where it might be needed but no where else

**HALO LENS** - This lens allows for gentle lighting in an area but knocks down the center beam. This allows for installation on walls, etc where there might be an opposite wall, etc where you want to eliminate generating a "hot" spot. Great general lighting but softly.

**SPOT LENS** - Just the opposite of the Halo whereas we knock down the general lighting and focus more of the light forwards. Great for illuminating that special feature.

**CATS EYE** - This lens reduces the light emanating but for just a "slice" of light that is broad but thin. An incredible effect for illuminating but without spilling light all over.

**DIAMOND** - WOW want to really create something special? The Diamond lens creates incredible points of light throughout the interior. The points will be different the farther away from the light they are. Put the LED colored light on DANCE PARTY MODE AND WATCH THE FUN BEGIN!



## Minimum and Maximum Cord Lengths Per Voltage Input

**Voltages** are determined by the measured Voltage level @ the Bus Bar where the Transformer and Cords are connected while on White

### MELODY & BLANCO MIN/MAX VOLTAGE PER CORD LENGTH

CORD LENGTH	Min. Voltage	Max. Voltage
15 Feet	7.8Vac	12.0Vac
30 Feet	8.6Vac	12.2Vac
50 Feet	9.4Vac	12.4Vac
100 Feet	10.7Vac	13.2Vac
150 Feet	11.82V	13.8Vac

### MEL-SOL & BLANCO PRO MIN/MAX VOLTAGE PER CORD LENGTH

CORD LENGTH	Min. Voltage	Max. Voltage
20 Feet	9.8Vac	12.0Vac
30 Feet	9.92Vac	12.2Vac
50 Feet	10.34Vac	12.56Vac
100 Feet	10.9Vac	13.5Vac
150 Feet	11.43Vac	14.1Vac

Next Step Products provides these guidelines as a reference for proper operation. Failure to adhere specifications could result in improper operation or synchronization of lights.

**ALL VOLTAGE READINGS ARE TAKEN WHILE LIGHTS ARE ALL SET TO WHITE**

As these Charts address the Minimum - please remember that at no time should the MAXIMUM distance with or without J Box extend past 150 ft.

# **2013/14 SAVI LED LIGHTING PRODUCTS**

## **BASIC TROUBLESHOOTING GUIDE - FOR ADDITIONAL INFORMATION CONTACT TECHNICAL SERVICES AT TELEPHONE NUMBERS LISTED BELOW**

**ALL LIGHTS FAIL TO ILLUMINATE** - Check 120V power supply into transformer - Check for 12V output at transformer - check or reset GFCI. Make sure 120 volts has not been used in the installation of these lights - damage is assured and is NON WARRANTY.

**ONE OR MORE LIGHTS DIM** - This is generally caused by a poor connection or improper wire gauge. To determine if light or lights has fault - separate each light from all other lights and independently wire 12V to this light only. Repeat process on each light. If junction box is used - recheck for proper connection of light cord. **AGAIN IF A JUNCTION BOX IS BEING USED - VERIFY THAT THE CORRECT WIRE GAUGE IS BEING USED BETWEEN TRANSFORMER AND JUNCTION BOX. EVEN THOUGH OTHER LIGHTS MIGHT WORK CORRECTLY - IMPROPER WIRE GAUGE SIZE COULD ALLOW 1 OR MORE LIGHTS TO WORK IMPROPERLY.** Measure and verify that proper low voltage is being supplied to lights - see **WIRE GAUGE & WIRE LENGTH GUIDE CHART.**

**BLINKING, FLASHING, NON WORKING LIGHTS** - This is generally caused by a poor connection or improper wire gauge. To determine if light or lights has fault - separate light from all other lights and independently wire 12V to this light only. Repeat process on each light. If junction box is used - recheck for proper connection of light cord. **AGAIN IF A JUNCTION BOX IS BEING USED - VERIFY THAT THE CORRECT WIRE GAUGE IS BEING USED BETWEEN TRANSFORMER AND JUNCTION BOX. EVEN THOUGH OTHER LIGHTS MIGHT WORK CORRECTLY - IMPROPER WIRE GAUGE SIZE COULD ALLOW 1 OR MORE LIGHTS TO WORK IMPROPERLY.** Measure and verify that proper low voltage is being supplied to lights - see **WIRE GAUGE & WIRE LENGTH GUIDE CHART. MOST IMPORTANTLY SEE CHART FOR MIN/MAX VOLTAGE & CORD LENGTH CHART.**

**COLORED LIGHTS OUT OF SYNCH** - Follow Synchronization Instructions in this Guide. Be very patient and read instruction carefully. If lights fail to synchronize - verify that proper wire connections are being achieved for those lights that are out of step with others. Generally a lights failure to sync with the rest is: improper voltage supply or poor connection to light.

**NOTE:** In most situations problems come down to 4 main faults: improper voltage supply, improper wiring gauge, improper/poor wiring connections or the light itself.

**2013/14 SAVI LED LIGHTS ARE FIELD SERVICABLE AND THE CORD AND LIGHT BODY FIXTURE SHOULD NOT BE REMOVED COMPLETELY FROM THE CONDUIT OR POOL. THERE SHOULD BE ENOUGH CORD SUPPLIED IN THE SERVICE LOOP TO REMOVE LIGHT FROM WALL FITTING AND LIFTED ABOVE WATER LEVEL FOR LED LIGHT CARTRIDGE REPLACEMENT. IF THERE IS NOT ENOUGH CORD IN SERVICE LOOP OR IT CANNOT BE ACCESSED - POOL WATER CAN BE DRAINED BELOW LIGHT TO ACCESS FRONT OF LIGHT.**

**DO NOT PULL LIGHT AND CORD ENTIRELY FROM CONDUIT UNLESS INSTRUCTED BY COMPANY. SAVI POOL AND SPA WILL NOT ACCEPT ENTIRE LIGHTS BEING RETURNED FOR SERVICE UNLESS INSTRUCTED BY COMPANIES TECHNICAL SERVICES DEPARTMENT ONLY LED LIGHT CARTRIDGES SHOULD BE REPLACED OR EXCHANGED WITH THE 2013/14 PRODUCT**

Refer to the Light Cartridge Replacement Instructions included in this Guide for light replacement.

**WARNING:** All servicing of Savi LED Lights should be done by a licensed or certified electrician or a qualified pool professional in accordance with the National Electric Code (NEC) or Canadian Electric Code (CEC)

For additional troubleshooting assistance or installation advice please contact Technical Services at telephone number below.



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# LIGHT CARTRIDGE REPLACEMENT

## MINI MEL, MINI BLANCO, MELODY / SOL / BLANCO / BLANCO PRO

**ALL LIGHT FIXTURES SHOULD NEVER BE ELECTRICALLY CONNECTED TO A POWER SOURCE OTHER THAN AN APPROVED POOL "SAFETY" UL LISTED OUTDOOR RATED CLASS 3, 12VAC TRANS-FORMER. THE SAVI NOTE SHOULD ONLY BE CONNECTED TO THE SAVI M4 CONTROLLER. FAILURE TO COMPLY WILL EITHER DAMAGE OR DESTROY THE LIGHT FIXTURE AND VOID THE WARRANTY.**



### TURN OFF MAIN POWER TO LIGHT BEFORE INSTALLATION

#### STEP 1

TURN OFF MAIN POWER TO LIGHT BEFORE REPLACING LIGHT CARTRIDGE. Be sure the light fixture is in a dry environment. Remove the (8) eight screws from the lens with the tool provided. Pull the lens from the fixture body. Remove and discard the O-ring between the Lens and Fixture Body.

#### STEP 2

Using the tool provided, insert and turn the threaded portion into the extraction hole in the face of the Light Cartridge. Pull the Light Cartridge from the housing body.

#### STEP 3

Insert the replacement cartridge into the housing body. Line up the TAB at the end of the circuit board with the receiving slot inside the housing body. It may be necessary to slowly turn the Light Cartridge until the TAB lines up with the SLOT.

#### STEP 4

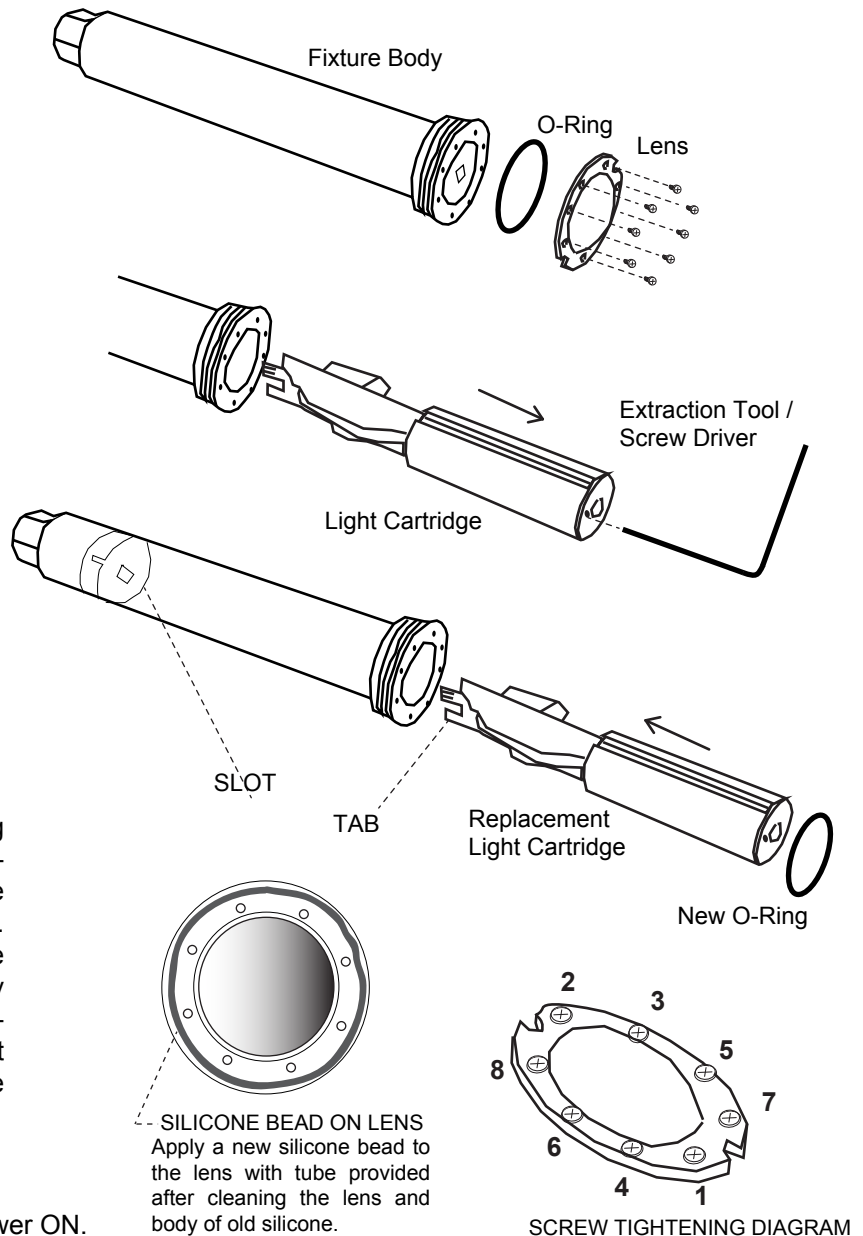
Clean the Lens and the Enclosure of any remaining old Silicone before applying new Silicone and replacing the Lens. Replace the O-ring with the new one provided. Attach the lens onto the fixture body. Tightly secure the eight (8) screws indicated in the diagram to the right. Once all screws are tight, slowly submerge in water, checking for any air bubbles - quickly remove from water bubbles appear as it indicates the seal is not water tight. Retighten the screws and test for bubbles again.

#### STEP 5

Reset the fixture into the wall fitting and turn the power ON.

#### WINTERIZING

The water level should be lowered to approximately 12 inches below the pool lights, make certain the water is drained out of the wall housing. Consult a Local Swimming Pool Professional for proper winterization. Minimum safeguard requires dropping the water level 2"-4" below the light. At NO TIME should there be water removed from the pool without checking ground water tables.



Consult Factory for proper selection of Replacement Cartridges. Very important for proper operation

## LIMITED PRORATED WARRANTY

Next Step Products LLC and its wholly owned subsidiaries and divisions (herein referred to as "the Company"), warrants its products, excluding lamps, to be free from defects in material and/or workmanship, under normal condition, use and service, for a period of Five (5) years from the date of manufacture. During the first two (2) years 100% coverage on all parts, 3rd (3) year all warranty parts will be replaced at 35% of the then current List Price of such part and in years Four & Five (4&5) all warranty parts will be replaced at 50% of the then current List price of such part. This specific warranty is for parts only and specifically excludes all labor charges associated with warranty items.

### TERMS AND CONDITIONS:

This warranty only applies when the Company's products are properly wired and installed together as a system; and operated within the electrical values shown on the Company's specification sheets; used in lighting equipment designed and approved for the application and environmental conditions (temperature, humidity) within the normal specified operating range of the system. This warranty does not apply to any abnormal use in violation of any applicable standard, code or instructions for use in installations including those contained in the latest National Electrical Code (NEC), the Standards for Safety of Underwriters Laboratory, Inc. (UL), Standards for the American National Standards Institute (ANSI), in Canada, the Canadian Standards Association (CSA), Europe (CE), Australia (C-Tick). This warranty will not apply in the event of conditions demonstrating abnormal use or stress, including under/over voltage conditions, excessive switching cycles, excessive operating hours, alterations, accident, theft, misuse, abuse and damaged caused by negligent installation, improper maintenance or where adequate care has not been taken to prevent damage to the lighting system. Replacement of the Company's product components with any other manufacturer will void the entire warranty.

### WARRANTY SERVICE CLAIMS:

The Company must issue a Return Material Authorization (RMA) number for all requests for warranty review. To expedite service, please contact the Company's Customer Representative where you purchased the product. If you are unsure whether a situation exists that is covered by this warranty, please contact the Company's customer service department from the company or division where you purchased the product for assistance. In the event of a defect in material or workmanship during the warranty period, the Company will repair or replace (at its own discretion) its products under the conditions of the warranty.

A complete list of the Company's brands and their warranty service contact information can be found at the end the warranty.

### RETURN OF DEFECTIVE PRODUCT:

After contacting the proper company or division and receiving the RMA#, the purchaser / user shall promptly return the product after receiving instructions regarding if, when and where to ship product. Product must be returned within 30 days of receiving RMA#. Shipping box must be clearly marked with RMA#. Failure to follow this procedure shall void this warranty. The company will cover expenses for material but will not cover shipping costs. Products returned without an RMA# will be refused and returned to sender at the senders expense.

### REPLACEMENT OF PRODUCT, LIMITS OF LIABILITY:

The foregoing shall constitute the exclusive remedy of the purchaser and the sole liability of Next Step Products LLC and its wholly-owned subsidiaries and divisions regarding its products and component warranty. NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. In no event shall Next Step Products LLC or its wholly-owned subsidiaries or divisions be liable for any other costs or damages including labor charges, lost profits or revenues, incidental, special or consequential damages. The Company reserves the right to examine all failed products and components to determine the cause of failure and patterns of usage and reserves the right to be the sole judge as to whether any product or component is defective and covered under this warranty. THIS WARRANTY IS ONLY TO THE ORIGINAL PURCHASER OF PRODUCT AND DOES NOT TRANSFER.

October 1, 2013